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Redactie: Dr. J.-P. Borie (Compiègne, France), Dr. L. De Bruyn (Antwerpen), T. C. Garrevoet (Antwerpen), B. Goater (Chandlers Ford, England), Dr. K. Maes (Tervuren), Dr. K. Martens (Brussel), H. van Oorschoot (Amsterdam), W. O. De Prins (Leefdaal).

Redactie-adres: W. O. De Prins, Dorpstraat 401B, B-3061 Leefdaal (Belgium).

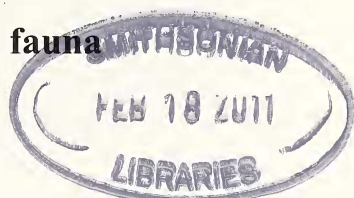
e-mail: willy.deprins@gmail.com

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## *Eriocrania sangii*, new for the Belgian fauna (Lepidoptera: Eriocraniidae)

Van de Meutter, F. & Steeman, C.



**Samenvatting.** *Eriocrania sangii*, een nieuwe soort voor de Belgische fauna (Lepidoptera: Eriocraniidae)

Sinds 2007 werden op verschillende locaties in de provincies Antwerpen, Limburg, Luxemburg, Namen en Oost-Vlaanderen mijnen gevonden van *Eriocrania sangii* (Wood, 1891), nieuw voor de Belgische fauna.

**Résumé.** *Eriocrania sangii*, une espèce nouvelle pour la faune belge (Lepidoptera: Eriocraniidae)

Depuis 2007, plusieurs mines d'*Eriocrania sangii* (Wood, 1891) ont été découvertes dans les province d'Anvers, Limbourg, Luxembourg, Namur et Flandre orientale. C'est la première fois que cette espèce est mentionnée de Belgique.

**Key words:** *Eriocrania sangii* – Belgium – faunistics – first record.

Van de Meutter, F.: Achterheide 16, B-3980 Engsbergen, Belgium.

Frank.VandeMeutter@gmail.com.

Steeman, C.: Koning Albertlei 90, B-2950 Kapellen. christiaan.steeman@pandora.be.

## Detailed account of the observations and habitat description

While inspecting *Betula* sp. leaves in a garden at Engsbergen (Tessenderlo, Prov. Limburg) on 28.iv.2009, the first author discovered several leaf mines that clearly belonged to Eriocraniidae, as indicated by the large blotch shape of the mines and the fine and long threadlike structure of the droppings in the mine (so-called frass) (Fig. 1). The mine was conspicuously inflated and the large larva clearly visible. After evacuation of the larva from its mine, the dark greyish colour pointed to its identification as *Eriocrania sangii* (Wood, 1891), a new lepidopteran species for Belgium (Fig. 2). That day a total of four mines of *Eriocrania sangii* were found on *Betula* in that garden. These mines were located

on two large (>15m) *Betula* at the south and south-western side of the trees. One tree was fully exposed to the sun, but the other was partly shaded by some willows (*Salix* sp.). The height at which the mines were found varied from 1.8 m to 3 m, but no higher branches were searched and mines may have been present at more elevated heights. At a new search in the same garden on 3.v.2009, all mines were already vacated, however, one full mine of *E. sangii* was found at the northern side of one of the *Betula* trees, suggesting development may be slower at the more shady (and colder) side of the trees. On 30.iv.2009, the author also visited the nature reserve "De Maten" near Genk (Prov. Limburg). During this visit, more than 10 mines of *E. sangii* were found on *Betula* sp. The mines were found at several locations (five trees) situated on both the Genk and Diepenbeek territories. In addition to these observations, Steve Wullaert discovered a full mine of *E. sangii* on 8.v.2009, in the Lembeekse bossen at Lembeke (Prov. Oost-Vlaanderen). Chris Snyers discovered some ten mines (of which three still inhabited) at a ruderal terrain next to the E19 highway at Kontich (Prov. Antwerp) on 1.v.2009.

Later, it became known that hundreds of mines with larvae of *E. sangii* had been found earlier on 26.iv.2007 at Grand Bois de Sévry, Javingue (Prov. Namur), leg. C. Steeman. All mines were found on 2–6 m high *Betula* trees along a forest path. *E. sangii* occurred here together with many *E. unimaculella*, *E. semipurpurella*, and to a lesser extent some *E. cicatricella* which caused a prominent infestation of the trees. In 2010, this locality was revisited and a similar community of Eriocraniidae observed. Also in 2010, *E. sangii* was observed at the Engsbergen garden (F. Van de Meutter) and discovered at Brecht, Groot Schietveld (Prov. Antwerp) on 18.v.2010 (C. Steeman). At the latter location, several hundred vacated mines were present, but three mines with the larva still in it could be identified as belonging to *E. sangii*.

In summary, increased attention for the early Eriocraniidae leaf miners resulted in the discovery of several new and rare species in Belgium since 2007, among which *E. sangii*. At present *E. sangii* is known from five provinces in Belgium, and its presence is likely to be confirmed in other provinces as well if searches are continued.

### **Description of *E. sangii* and its mine**

The larva of *E. sangii* is monophagous on *Betula* sp. and creates a blotch mine in the leaf typical of several Eriocraniidae. Young larvae appear lightly greyish due to many minute black warts that cover the integument. The larger the larva grows, the darker it gets and full grown larvae are distinctively dark greyish (the colour of lead, see Fig. 2). In this it differs from all other Eriocraniidae and it may be easily identified on eyesight. Mines start at the edge of a *Betula* leaf with a short corridor and then proceed as a blotch to the centre. They form a white, full depth blotch that may eventually cover half the leaf's surface. Typical for Eriocraniidae is that the frass (excretions) forms long threads. Pupation follows after evacuation from the mine in the soil. More details on the ecology and habitus of the larva of *E. sangii* may be found in Ellis (2009).



Figure 1: Leaf mine of *Eriocrania sangii* on *Betula* sp., Engsbergen, Belgium 28.iv.2009 (F. Van de Meutter). Note the very dark larva inside.



Figure 2: Evacuated larva of *Eriocrania sangii*, Engsbergen, Belgium 28.iv.2009 (F. Van de Meutter). Note the dark greyish colour.

Adults have a wingspan of 9–14 mm and are variable in appearance. So far they cannot reliably be identified on colour or shape, which is why it was probably not seen before in Belgium, although some recent publications provide new keys for adults (Bengtsson *et al.* 2008). The general appearance is similar to other native *Eriocrania* species but in *E. sangii* the light blotch at the outer edge of the forewings is generally (more) conspicuous.

### Phenology

The adults fly in March and April and the leaf mines can be found from the end of March until May (Heath 1976, Ellis 2009).

### Distribution

The general distribution of this species is from Fennoscandinavia and northern Russia to the Pyrenees and Alps, and from Ireland to Romania (Karsholt 2010). It was not known from Belgium and the Grand Duchy of Luxemburg (De Prins & Steeman 2010, Karsholt 2010), but a series of records is known from the Netherlands (Kuchlein & de Vos 1999, Ellis 2009). Here, it is a relatively rare species with records distributed all over the country. Although stated in the literature as local in Britain (Heath 1976), renewed interest in this group in recent years has shown the species to be well distributed and quite common, especially in northern England. At present, the species is known from five provinces in Belgium, and may be locally very abundant.

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